

CAPABILITY WITH SIMPLICITY

Designed for the most exacting
requirements of Commercial and
Military usage—



FFR-230

Fixed Frequency Receiver



The Galaxy FFR-230 solid-state fixed frequency receiver was designed for highly reliable performance in Commercial and Military applications demanding extreme accuracy and stability under both fixed and portable use.

It has a unique multiple filter to allow for the quick change of bandwidth for optimum performance in receiving SSB, AM, CW, FAX or FSK signals. Outputs are provided for the operation of auxiliary equipment. Use of solid state technology provides for better reception under adverse conditions and easier maintenance in the field.

SPECIFICATIONS

Frequency Range.....2 to 30 MHz, crystal controlled.
Modes.....AM, Selectable UPPER and LOWER Sideband, RTTY (wide and narrow band) and CW.
Power Requirements.....115/230 VAC 50-60 Hertz or 14-18 VDC @ 800 ma (Unit draws 15 watts of power).
Frequency Stability.....+/- 2.5 parts per million
-30°C to 50°C or +/- 20 Hertz whichever is greater.
RF Input Impedance.....50 ohms unbalanced
Sensitivity.....AM better than 3 uv for 10 db S+N/N 30% mod/6 KHz bandwidth.
RTTY better than .5 uv for 10 db S+N/N.
SSB better than .5 uv for 10 db S+N/N.
CW better than .5 uv for 10 db S+N/N.

Selectivity.....
6 KHz @ 3 db.....20 KHz @ 60 db AM
2.1 KHz @ 3 db.....7.2 KHz @ 60 db UPPER
SIDEBAND
2.1 KHz @ 3 db.....7.2 KHz @ 60 db LOWER
SIDEBAND
0.6 KHz @ 3 db.....2.7 KHz @ 60 db CW
(USB) 700 Hertz
Center Freq.
0.6 KHz @ 3 db.....2.7 KHz @ 60 db RTTY
(USB) 2000 Hertz
Center Freq.
1.7 KHz @ 3 db.....6.8 KHz @ 60 db RTTY
(USSB) 2250 Hertz
Center Freq.
IMAGE REJECTION.....60 db or better 2 thru 16 MHz
38 db or better 16 thru 30 MHz

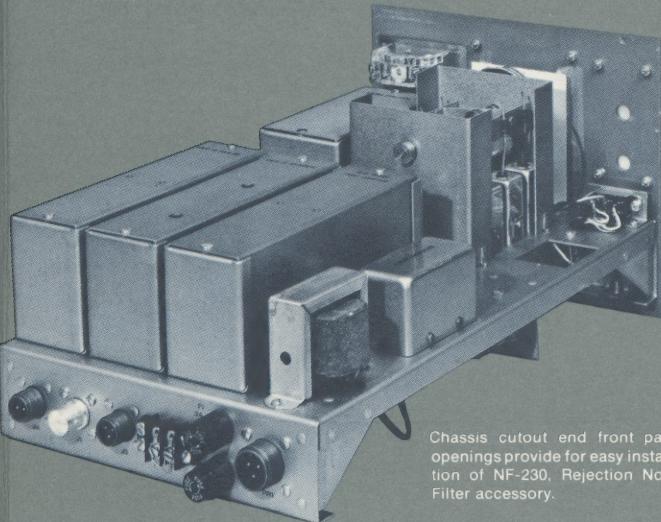


Galaxy's famous Modular Construction in the FFR-230 Receiver simplifies many field maintenance and depot spares problems!

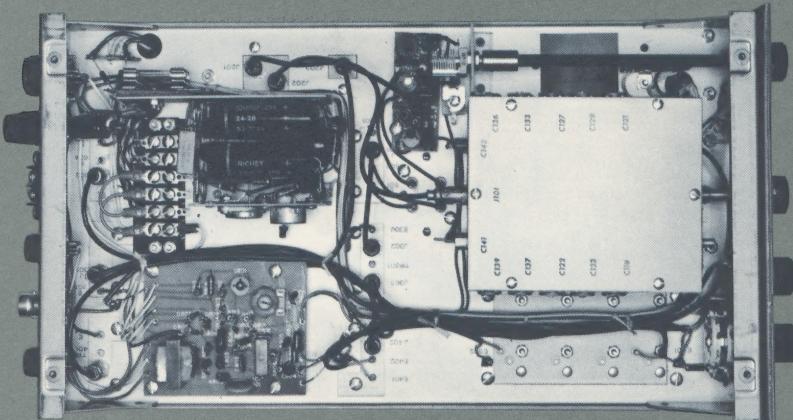
The receiver is light in weight, small in size and produces little or no heat over a wide temperature change. This compact packaging allows for two receivers to be placed in a single 19" rack mount (see back page) conserving space in both commercial and military applications.

The chassis and other metal parts are chrome treated to minimize corrosion and fungus damage.

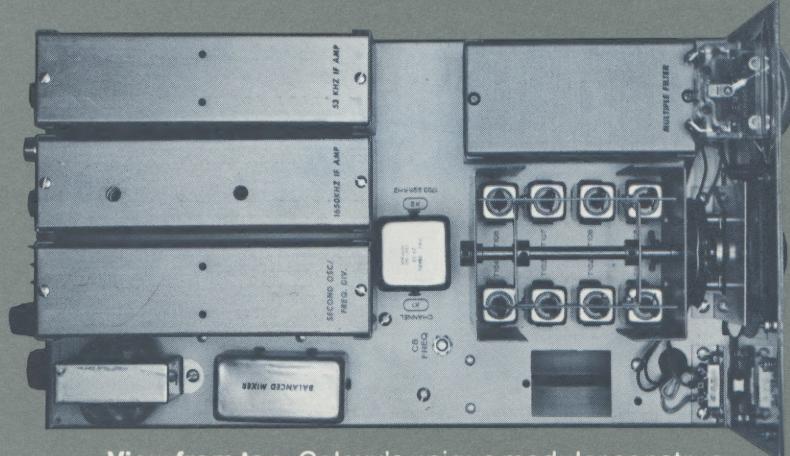
Mil-standard connectors are used throughout.



Chassis cutout and front panel openings provide for easy installation of NF-230, Rejection Notch Filter accessory.



View from Bottom: Notice Galaxy's uncongested layout for ease of maintenance.



View from top: Galaxy's unique modular construction permits fast unit servicing.

SPECIFICATIONS

AVC.....1 uv to 300,000 uv will cause less than 6 db change in the audio output—30-millisecond attack, 3 second release

Audio Output..... .5 watts at 5% distortion

Remote Control Provisions.....External Mute

Metering.....R. F.—Calibrated—0 to 80 db
AF—Calibrated—6 to +4 db (1MW reference 600 ohm balanced line)

Rear Panel Outputs.....8 ohm, 600 ohm and Mute

Rear Panel Inputs.....Antenna 50 ohm, Power input

Environmental Conditions.....Temperature Range
-30°C to +50°C

Receiver Overload.....10 volts RMS will not cause damage. 1/2 volt signal intelligible.

External Spurious.....60 db down from desired signal

CROSS MODULATION PERFORMANCE

(Reference Signal 100 uv F1)

TEST SIGNAL

Test Signal Frequency **30% MODULATION**
Test Signal Level to Produce 10% Modulation of the Reference Signal (F1)

F1 +/- .01 F1	20,000 uv
F1 +/- .02 F1	30,000 uv
F1 +/- .04 F1	100,000 uv
F1 +/- .08 F1	500,000 uv
F1 +/- .16 F1	3.0 volts
F1 +/- .32 F1	Greater than 3.0 volts

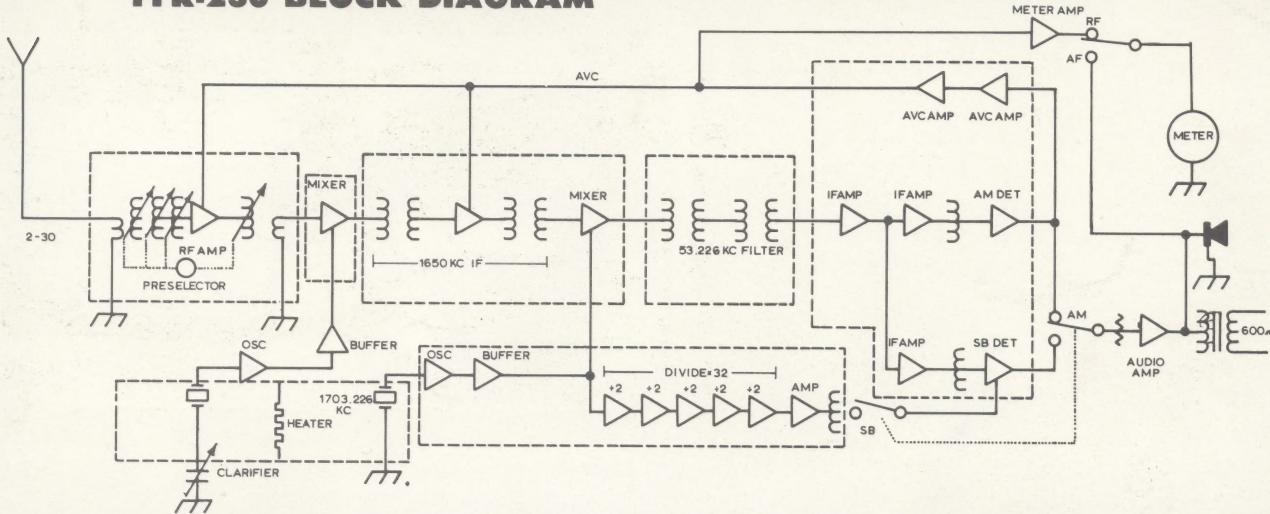
Size of Receiver.....8 1/2" W x 6 15/16" H x 15 7/8" D

Weight.....13 pounds

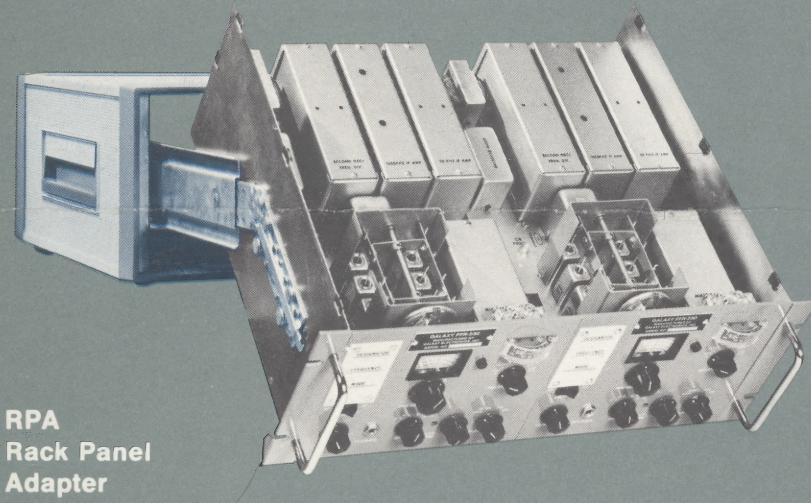
Finish.....Gray. Special finishes available

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FFR-230 BLOCK DIAGRAM



RECOMMENDED ACCESSORY FOR THE FFR-230



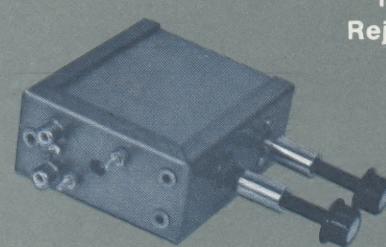
RPA
Rack Panel
Adapter

Rejection Notch Filter, provides an extremely narrow rejection notch in the IF passband of the FFR-230 receiver for removing interfering heterodynes or unwanted CW signals. The chassis mounted module has front panel controls for Frequency (± 5 KHz) and Notch Depth. The Depth control has an OFF position which removes the Notch Filter from the circuit when not in use.

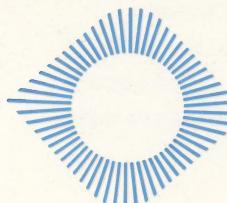
The Rack Panel Adapter not only provides both top and bottom dustcovers for the FFR-230 Receiver but facilitates servicing of the unit as well.

As the photograph illustrates—the rack slides fastened to the Receiver can be tilted providing easy accessibility to the entire unit for inspection, servicing or frequency changing.

Rack panel adapter is chromate treated to minimize corrosion and fungus damage.



NF-230
Rejection
Notch
Filter



galaxy electronics

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Gentlemen:

The FFR-230 fixed frequency HF receiver is now being delivered to the U. S. Coast Guard. After evaluating receivers from many manufacturers, they chose the Galaxy FFR-230 as their standard. A glance at the attached data sheet will show you why-- frequency stability, front-end performance, and switchable filters -- capability beyond anything presently available.

A measure of quality in an HF receiver is not what it will listen to, but what it won't -- what it will reject beyond the desired signal. Up to this time, solid state HF receivers behaved very poorly in this regard, especially in high RF environments. In the FFR-230 Galaxy offers the finest state of the art front-end capability now known.

Acceptance testing has been completed and approved, and we are now in production. This puts us in an excellent position to offer the FFR-230 to other users at considerable savings with deliveries within forty-five days. The FFR-230 is priced at \$732.

For search-tune applications, the R-530 general coverage HF receiver is suggested. Employing many of the same design elements as its companion fixed frequency unit, the R-530 is \$895.

Compare specifications and prices with any other receivers and you'll agree with those who have chosen Galaxy.

Sincerely,

HY-GAIN ELECTRONICS CORPORATION

A handwritten signature in black ink, appearing to read 'J. M. Walsh'.

J. M. Walsh, Manager
Commercial and Government Marketing

JMW/lh

Enclosures - FFR-230 Data Sheet
R-530 Data Sheet